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REMARKS

By way of this amendment, claims 1 and 34 have been amended, claims 43 and 44 have been cancelled and new claims 45 and 46 are presented herein. Claims 1-22 were previously cancelled. Accordingly, claims 23-42, 45 and 46 are pending in the present application.

Applicants respectfully request reconsideration and allowance of the present application.

In the Office Action mailed on March 6, 2007, claims 23, 24 and 29 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,449,318 to Rumbaugh. Additionally, claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh; claims 26-28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh in view of U.S. Patent No. 6,522,357 to Beiley et al., and further in view of U.S. Patent No. 4,025,947 to Michael; and claims 30-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh in view of U.S. Patent No. 6,549,239 to Tao. Applicants have amended independent claim 23 and submit that claims 23-33 are not anticipated by Rumbaugh and would not have been rendered obvious in view of Rumbaugh alone or in combination with Beiley et al. and Michael, for the following reasons.

Claim 23, as amended, recites a host processor to camera interface comprising a camera side interface, a host processor side interface, and a cable for carrying the video data. The camera side interface includes a camera side link layer coupled to a camera, the camera providing video data, the camera side link layer converting the video data to a desired video data format. The camera side interface also includes a serializer coupled to the camera for serializing the video data in the desired video data format. The camera side interface further includes a camera side transmitter coupled to the serializer, the camera side transmitter transmitting the serialized video data. The host processor side interface includes a host processor side receiver for receiving the serialized video data, and a deserializer coupled to the host processor side receiver, the deserializer deserializing the serialized video data. The host processor side interface further includes a host processor side link layer coupled to the deserializer and a host processor, wherein the host processor side link layer is adapted to convert the deserialized video data into a format compatible with the host processor when required. The cable includes a data signal line and a pair of power

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wires for carrying power, the cable coupling the camera side transmitter to the host processor side receiver. The host processor side link layer provides a trigger pulse to the camera side link layer through the pair of power wires which is indicative of initiation of configuration of the camera. Data communication from the camera to the host processor is disabled and configuration data is transmitted from the host processor to the camera during the configuration. Additionally, following the configuration of the camera, communication from the camera to the host processor is enabled and video data is transmitted from the camera to the host processor via the data signal line.

In contrast, the Rumbaugh reference teaches a twisted pair communications transmission system that can transmit digital data using a differential voltage, frequency offset, on-off keying (OOK) transmission system. FIG. 2 of Rumbaugh discloses the architecture of a transmitter/receiver (transceiver). Various data source devices may use the electronic device interface 100 to connect to the transceiver 200 including telephones, cameras, TV devices, etc. The device interface 100 outputs digital information (bits) into the input side of serial interface converter 101 which converts parallel data to serial and buffers the transmission. The output side of converter 101 provides TTL voltage levels and is connected to the control input lead of transceiver 102. Transceiver 102 uses a modulator that provides control of the OOK signal through the TTL voltage level control lead. Transceiver 102 is further connected to twisted pair coupler 104 which connects the data circuit to the twisted pair wiring.

The architecture of the receiving part of transceiver 200 in Rumbaugh includes decoupler 107 on the receiver side that connects to the twisted pair wiring. The coupler 107 provides impedance matching connected to the input side of the differential current detector 108 which, in turn, is connected to voltage converter and amplifier 109. The amplifier 109 is connected to a demodulator 110 that provides a zero to five voltage TTL compatible signal that is input into serial interface buffer 111. The output of buffer 111 is then connected to a computer or digital data interface input device 112.

In order to anticipated a claim, the prior art reference must teach and every element of the claim. With respect to the rejection of claims 23, 24 and 29 under 35 U.S.C. §102(b) as being anticipated by Rumbaugh, Applicants submit that Rumbaugh fails to teach each and every element

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of claim 23, as amended. Rumbaugh fails to teach a host processor to camera interface having the camera side interface, host processor side interface, and a cable for carrying the video data and including a data signal line and a pair of power wires for carrying power, with the cable coupling the camera side transmitter to the host processor side receiver and configured to perform the function recited in claim 23, as amended. Rumbaugh fails to teach the host processor side link layer provides a trigger pulse to the camera side link layer through the pair of power wires which is indicative of initiation of configuration of the camera, wherein data communication from the camera to the host processor is disabled and configuration data is transmitted from the host processor to the camera during the configuration, and following the configuration of the camera, communication from the camera to the host processor is enabled and video data is transmitted from the camera to the host processor via the data signal line. While Rumbaugh discloses an architecture that allows communication on a twisted pair of wire transmission system, nowhere does Rumbaugh disclose the architecture configured to allow for configuration of the camera initiated on the pair of power wires and transmission of data on the data signal line as received in Applicants' claimed invention.

Accordingly, Applicants have demonstrated that amended claim 23 is not anticipated by Rumbaugh. The rejection of claim 23 and dependent claims 24 and 29 under 35 U.S.C. §102(b) based on Rumbaugh should therefore be withdrawn, which action is respectfully requested.

With respect to the rejection of claims 25-28 and 30-33, Applicants respectfully submit that these dependent claims depend from independent claim 23, and therefore should be allowable for the reasons set forth above with respect to the rejection of claim 23. Additionally, Applicants submit that Rumbaugh does not teach or suggest the claimed invention, and one of ordinary skill in the art would not find claim 23, as amended, obvious in view of Rumbaugh.

The reference to Beiley et al. discloses an apparatus for increasing retention time of an electronic shutter having an image sensor. The Examiner cited Beiley et al. specifically for an alleged teaching of at least one of the camera video data formats provides a frame valid (FVAL) signal and a line valid (LVAL) signal at column 5, lines 53-60. However, nowhere does Beiley et al. makeup for the deficiencies in Rumbaugh as noted above.

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The reference to Michael discloses a digital video assignment system adapted to accommodate video and audio signals. The Examiner cited Michael specifically for allegedly teaching that the XVAL signal corresponds to the LVAL signal with an added EOF signal, citing column 6, lines 5-14. The Examiner also cited Michael for teaching that a pulselwidth of the EOF signal is less than the pulselwidth of the LVAL signal, citing column 6, lines 18-30, and FIG. 9. Applicants submit that the Michael references fails to makeup for the deficiencies of the Rumbaugh references as described above, and Michael combined with Beiley et al. and does not teach or suggest the claimed invention set forth in independent claim 23, as amended.

The Tao reference discloses a progressive-scan charge-coupled device camera that captures an entire frame of an image of an optically readable code and generates a histogram or probability distribution function (PDF) of the image and uses the histogram or PDF to automatically adjust the contrast of the image. Nowhere does Tao makeup for the deficiencies of the Rumbaugh references as discussed above, and Tao combined with Rumbaugh does not teach or suggest the claimed invention as set forth in independent claim 23, as amended.

Accordingly, Applicants have further demonstrated that dependent claims 25-28 and 30-33 would not have been obvious to one of ordinary skill in the art, and that the rejection of these claims under 35 U.S.C. §103(a) as being obvious over Rumbaugh alone or in the cited combinations with Beiley et al., Michael or Tao should therefore be withdrawn.

Claims 34 and 38 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh in view U.S. Patent Publication No. 2004/0143380 to Stam et al. Applicants have likewise amended independent claim 34 to add features similar to those added to independent claim 23 discussed above which includes reciting that the host processor side link layer provides a trigger pulse to the camera side link layer through the pair of power wires which is indicative of initiation of configuration of the camera, wherein data communication from the camera to the host processor is disabled and configuration data is transmitted from the host processor to the camera during the configuration, and following the configuration of the camera, communication from the camera to the host processor is enabled and video data is transmitted from the camera to the host processor

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via the data signal line. Applicants respectfully submit that claim 34 and dependent claim 38 would not have been obvious in view of Rumbaugh combined with Stam et al. for the following reasons.

The Stam et al. reference discloses the use of imagers onboard a vehicle. The Examiner cited Stam et al. for teaching a camera attached to a motor vehicle and that the host processor is incorporated within an electronic control unit of the motor vehicle that is remote from the camera.

As described above, the Rumbaugh reference fails to teach or suggest a host processor to camera interface comprising a side camera interface, a host processor side interface, and a cable as set forth in independent claim 34 which requires that the host processor side link layer provides a trigger pulse to the camera side link layer through the pair of power wires which is indicative of initiation of configuration of the camera, wherein data communication from the camera to the host processor is disabled and configuration data is transmitted from the host processor to the camera during the configuration, and following the configuration of the camera, communication from the camera to the host processor is enabled and video data is transmitted from the camera to the host processor via the data signal line. The Stam et al. reference cited by the Examiner for use of a camera on a vehicle, and does not make up for the deficiencies of the Rumbaugh reference.

Nowhere does Rumbaugh or Stam et al. singly or in combination teach or suggest the claimed invention set forth in independent claim 34, as amended.

Accordingly, the rejection of claims 34 and 38 under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh in view of Stam et al. should therefore be withdrawn, which action is respectfully solicited.

Claims 35-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh in view of Beiley et al. and further in view of Michael; and claims 39-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rumbaugh in view of Stam et al. in view of Tao. Applicants likewise submit that dependent claims 35-37 and 39-42 should be allowable for the reasons set forth above with respect to the independent claim 34. Additionally, as described above with respect to claim 23, Applicants submit that the Beiley et al., Michael and Tao references fail to teach or suggest the features set forth in claim 34 and the dependent claims. Accordingly, the rejection of these claims should likewise be withdrawn.

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Finally, claims 43 and 44 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,990,469 to Bechtel et al. in view Rumbaugh. Claims 43 and 44 have been cancelled, thereby rendering this rejection moot.

Applicants have added new independent claim 45 and dependent claim 46. Claim 45 recites a method of communicating data between a camera and a remote host processor. Included in the claimed method are the steps of providing a cable connection between a camera and a remote host processor, the cable connection including a power line for carrying power and a data signal line, and providing a trigger pulse from the host processor side link layer of the host processor to a camera side link layer of the camera through the power line, wherein the trigger pulse is indicative of initiation of configuration of the camera. The method also includes the step of disabling a serializer in the camera side link layer and enabling a serial-to-camera (SERTC) channel receiver in the camera side link layer in response to receiving the trigger pulse on the power line. The method further includes the steps of monitoring the status of the signal line by examining outputs of a deserializer located in the host processor side link layer, and enabling a SERTC channel transmitter located in the host processor side link layer to establish a serial communication interface (SCI) between the camera coupled to the camera side link layer and the host processor coupled to the host processor side link layer via the signal line when the output of the deserializer indicates the signal line is free. The method further includes the steps of transmitting configuration data from the host processor to the camera, disabling the SERTC channel transmitter and the SERTC channel receiver and enabling the deserializer and serializer in response to a reset message, wherein the reset message is provided by the host processor, and transmitting the video data from the camera to the host processor via the signal line. Applicants submit that new independent claim 45 and dependent claim 46 define patentable subject matter and should be allowed over the references of record, which action is respectfully solicited.

By way of the foregoing discussions, Applicants have demonstrated that the claims, as amended, are not anticipated by Rumbaugh and would not have been rendered obvious in view of Rumbaugh alone or in combination with Beiley et al., Michael, Tao, Stam et al., and Bechtel, and

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the rejections of the claims under 35 U.S.C. §102(b) and §103(a) should therefore be withdrawn, which action is respectfully solicited.

In view of the above amendments and remarks, it is submitted that claims 23-42, 45 and 46, as amended, define patentable subject matter and are in condition for allowance, which action is respectfully requested. If the Examiner has any questions regarding the patentability of any of the claims, the Examiner is encouraged to contact Applicants' undersigned attorney at the Examiner's convenience.

Respectfully submitted,

May 31, 2007
Date

/Kevin T. Grzelak/
Kevin T. Grzelak, Registration No. 35 169
Price, Heneveld, Cooper, Dewitt & Litton, LLP
695 Kenmoor, S.E.
Post Office Box 2567
Grand Rapids, Michigan 49501
(616) 949-9610

KTG/csd/jrb